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Title: Off-Site Source Recovery Program: Overview

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Off-Site Source Recovery Program: Overview

March 2018

OFF-SITE SOURCE RECOVERY PROGRAM
NATIONAL SECURITY THROUGH SOURCE REMOVAL

National Nuclear Security Administration

Global Material Security


148
197
180
UN2908
EMPTY
UN2908
EMPTY
352

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Introduction to OSRP

OSRP Mission:

Eliminate excess, unwanted, abandoned, or orphaned radioactive sealed sources that pose a potential risk to health, safety, and national security.

- To date, OSRP has contributed to national and global security by recovering more than 40,000 radioactive sources, totaling 1.25 million Curies of material
- OSRP has recovered sources in all 50 states and 25 countries worldwide

Isotope	Sources Recovered	Curies Recovered*
^{60}Co	5,757	327,718
^{90}Sr	276	640,567
^{137}Cs	5,206	244,859
^{238}Pu	2,521	15,830
^{239}Pu	1,151	1,307
^{241}Am	23,049	17,056
All Others	2,914	385
TOTALS	40,874	1,247,723

**Activity upon recovery*

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Significance of OSRP

- Sponsored by NA-21, Office of Radiological Security, OSRP brings in nearly $17M in funding to LANL each year
  - Domestic budget - ~$14.1M
  - Alternative Technologies ~$1.84M
  - International ~ $820k
- OSRP supports personnel from many LANL organizations (NEN, RP, SAFE, AET, OS) as well as several subcontractors
- The OSRP team is made up of a dozen full-time experts in source recovery, source identification, packaging and transportation, health physics, radiation protection, and disposal.
- We maintain the only capability within the DOE complex for disposal of sealed radioactive TRU sources at WIPP.

OSRP experts also support other organizations within LANL, the DOE complex, and NNSA with sealed source identification, handling, and disposal expertise.

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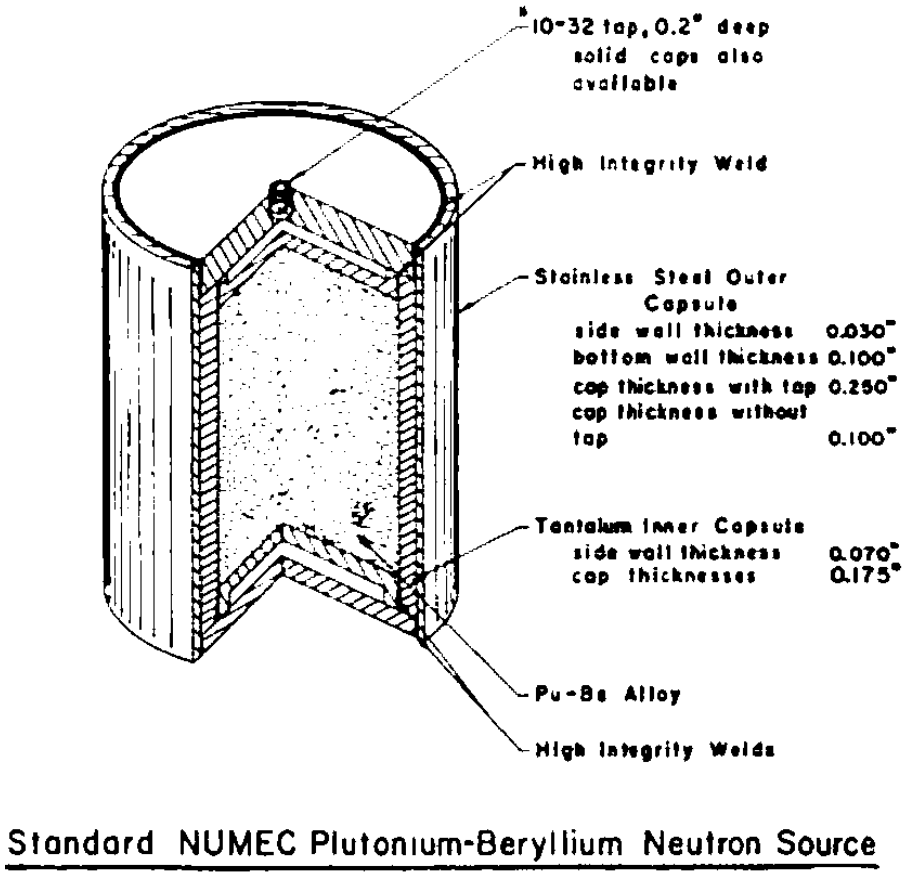
Source Construction



Standard NUMEC Plutonium-Beryllium Neutron Source

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Special Form Capsules

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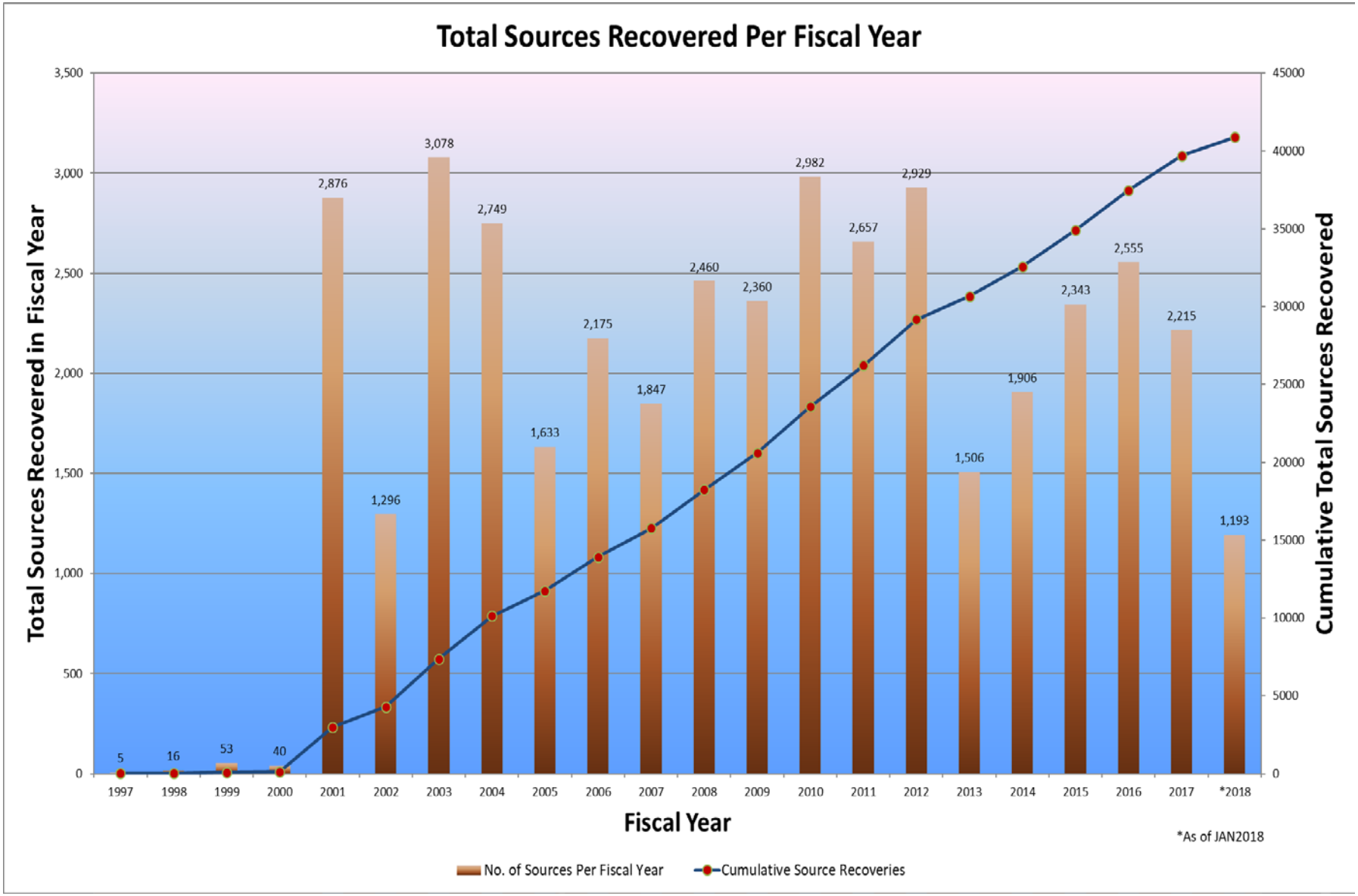
Total Sources Recovered Per Fiscal Year
Total Sources Recovered in Fiscal Year
Cumulative Total Sources Recovered
Fiscal Year
*As of JAN2018
No. of Sources Per Fiscal Year
Cumulative Source Recoveries
3,500
3,000
2,500
2,000
1,500
1,000
500
0
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 *2018
5 16 53 40 2,876 1,296 3,078 2,749 1,633 2,175 1,847 2,460 2,360 2,982 2,657 2,929 1,506 1,906 2,343 2,555 2,215 1,193

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Program Challenges

- Recoveries
  - No approval for foreign origin source recovery
  - Recoverable US-origin disused transuranic source inventory decreasing
- Storage
  - Increased Alt Tech recoveries resulting in double SwRI disassembly/storage costs
  - POC storage issues
- Disposal
  - WIPP certification of new waste
  - TRUPACT restrictions (e.g. gram limits for Pu, drum type mixing, weight limits)
  - Foreign origin defense determination

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